

M. E. WARD.

CAR ROOF.

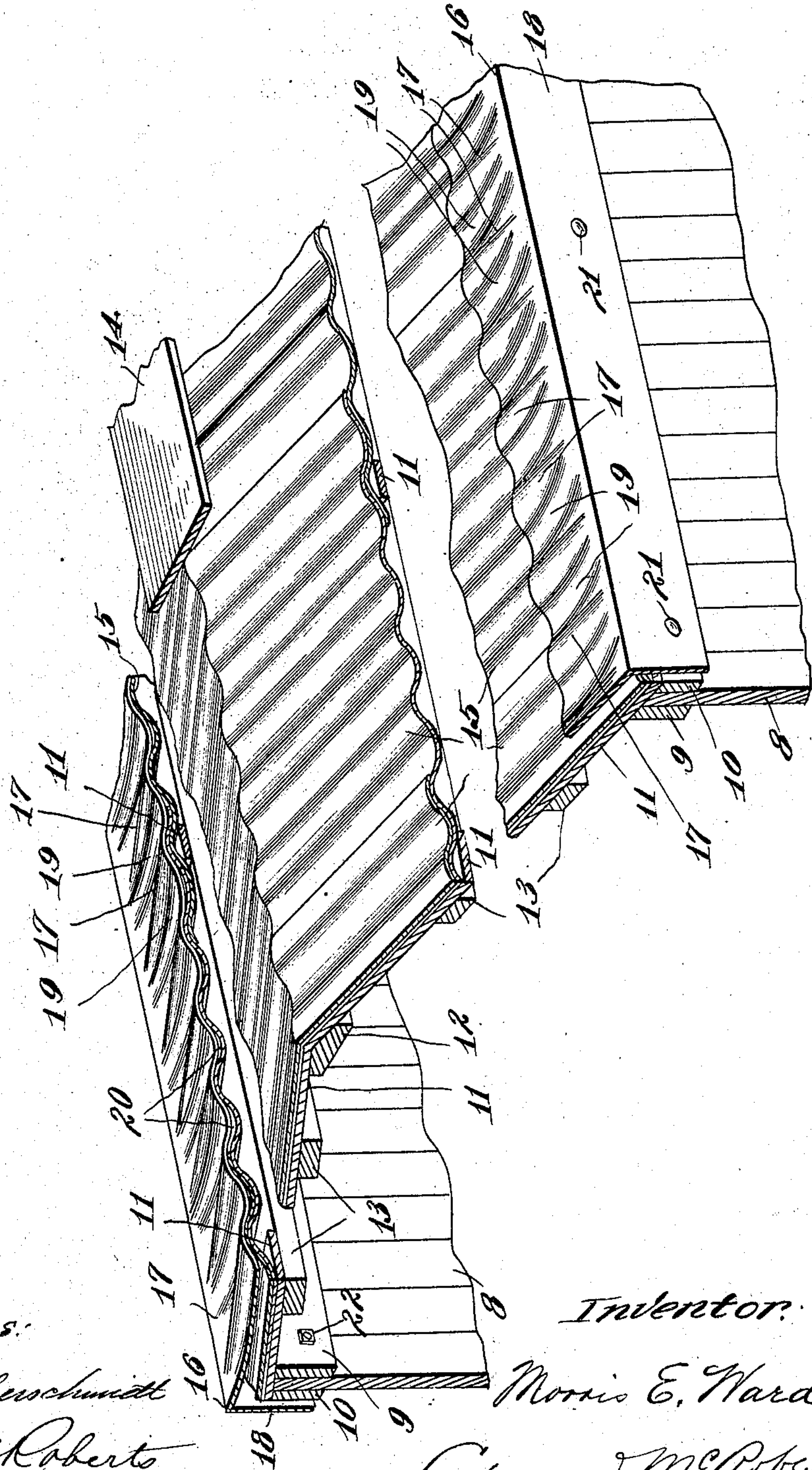
APPLICATION FILED FEB. 19, 1908.

Patented Sept. 29, 1908.

2 SHEETS—SHEET 1.

899,817.

Fig. 1.



Witnesses:

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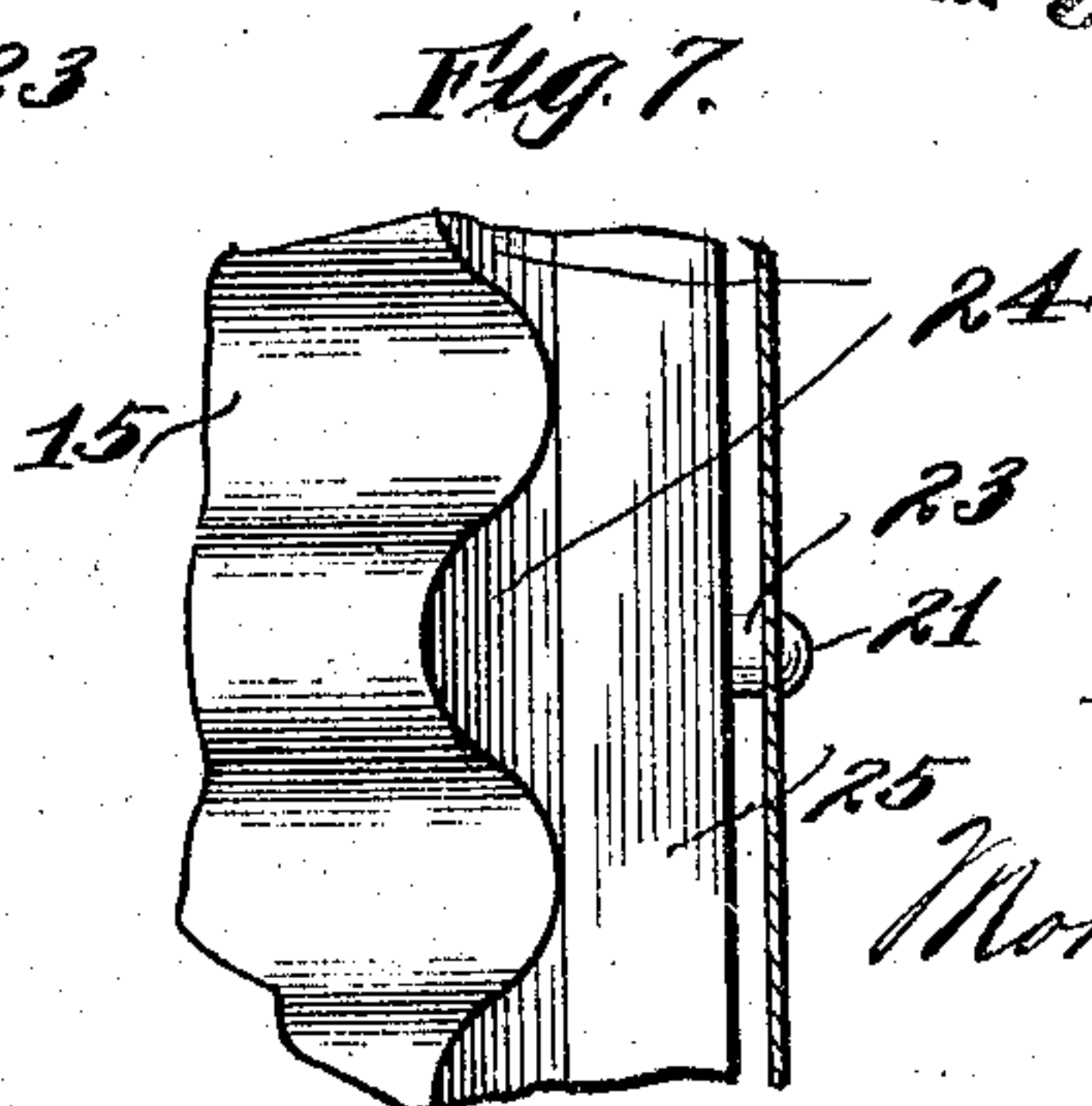
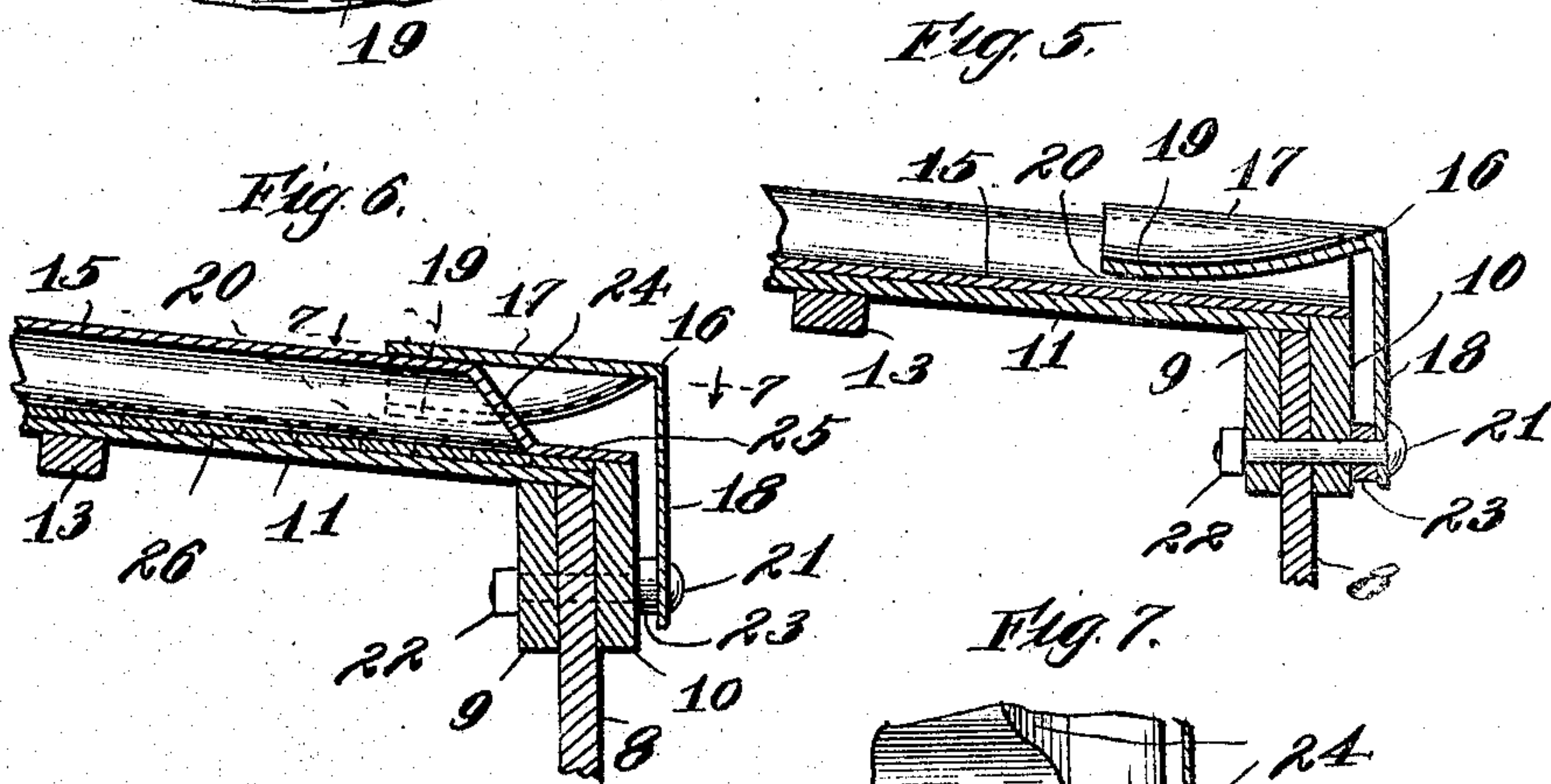
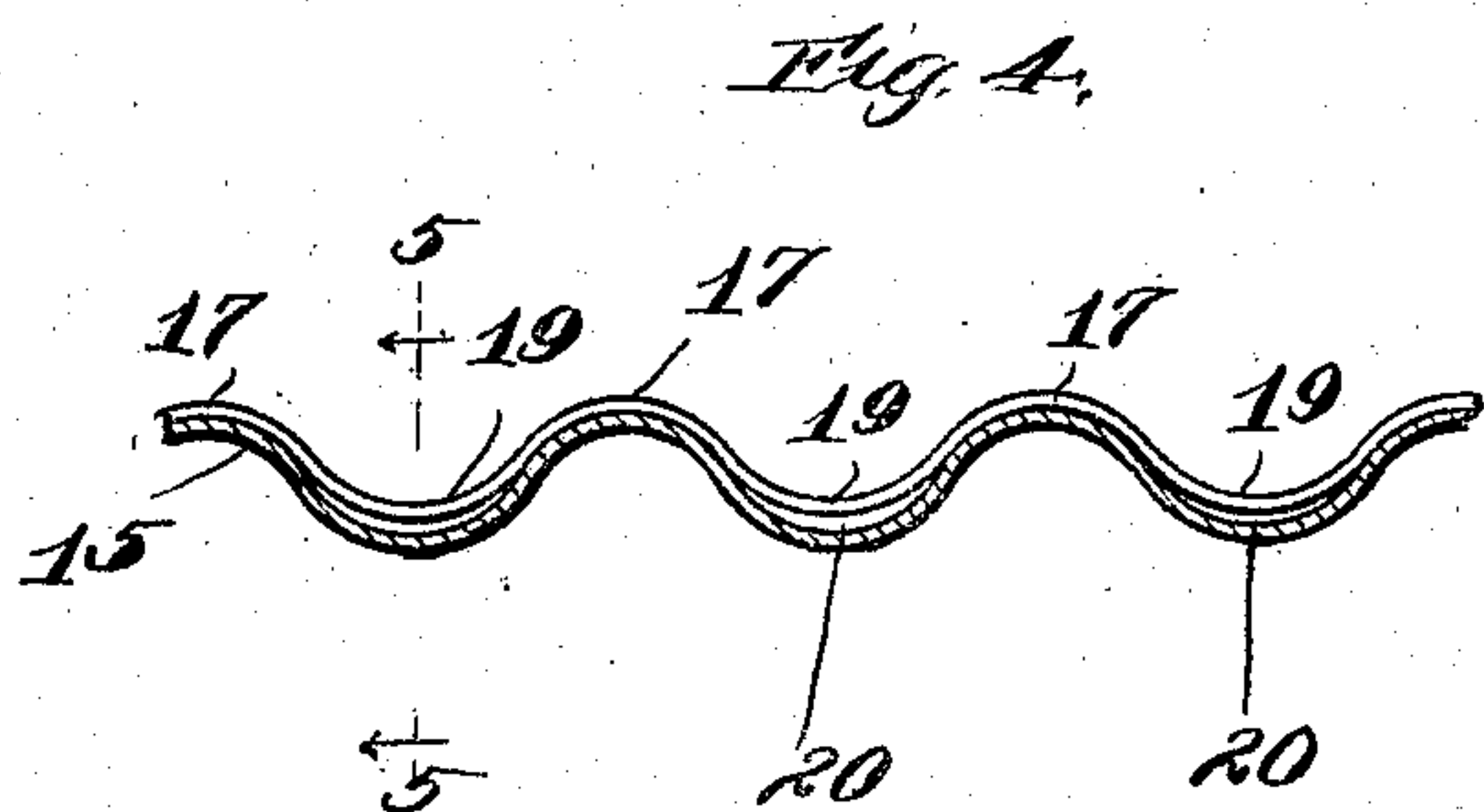
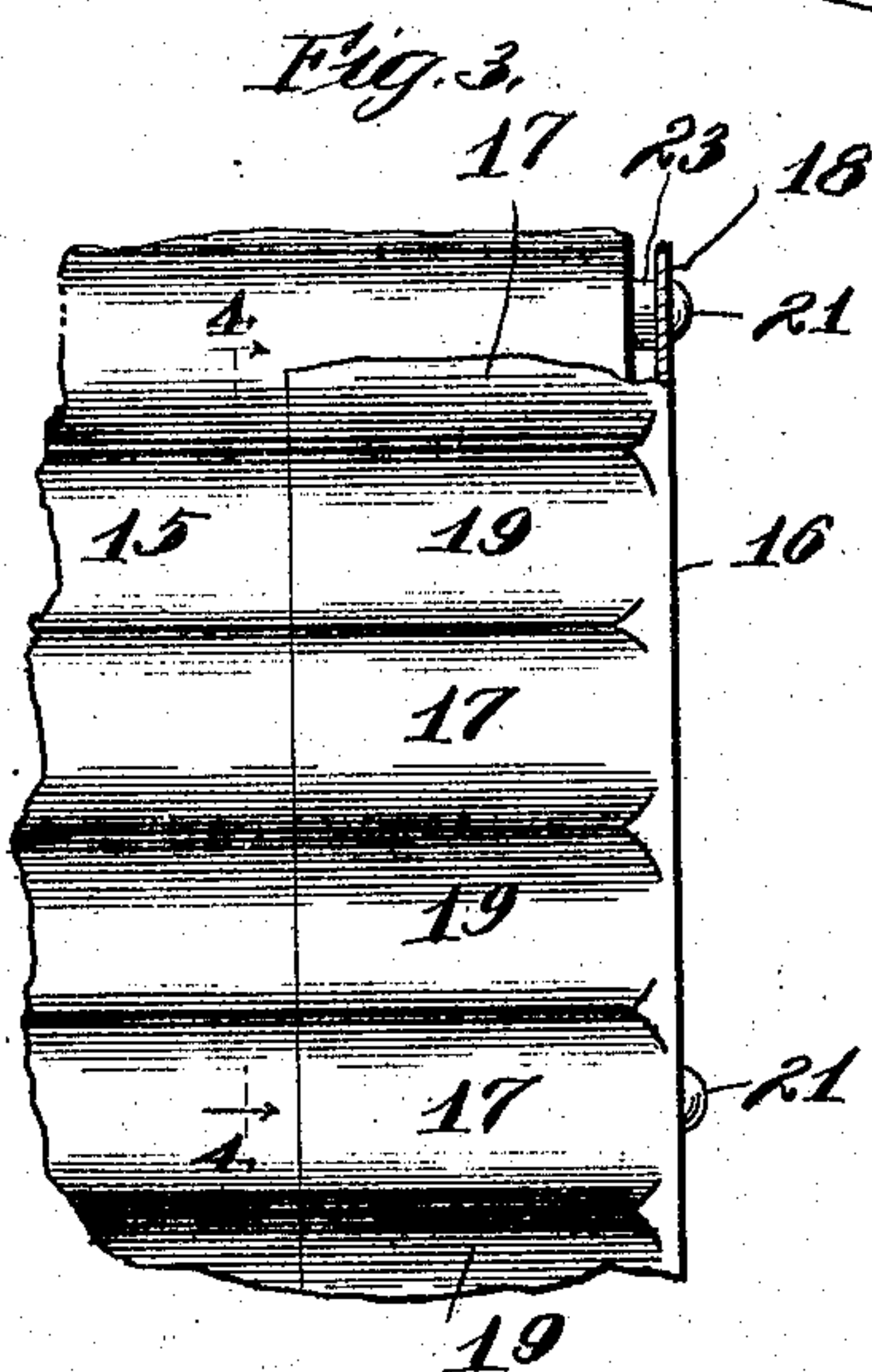
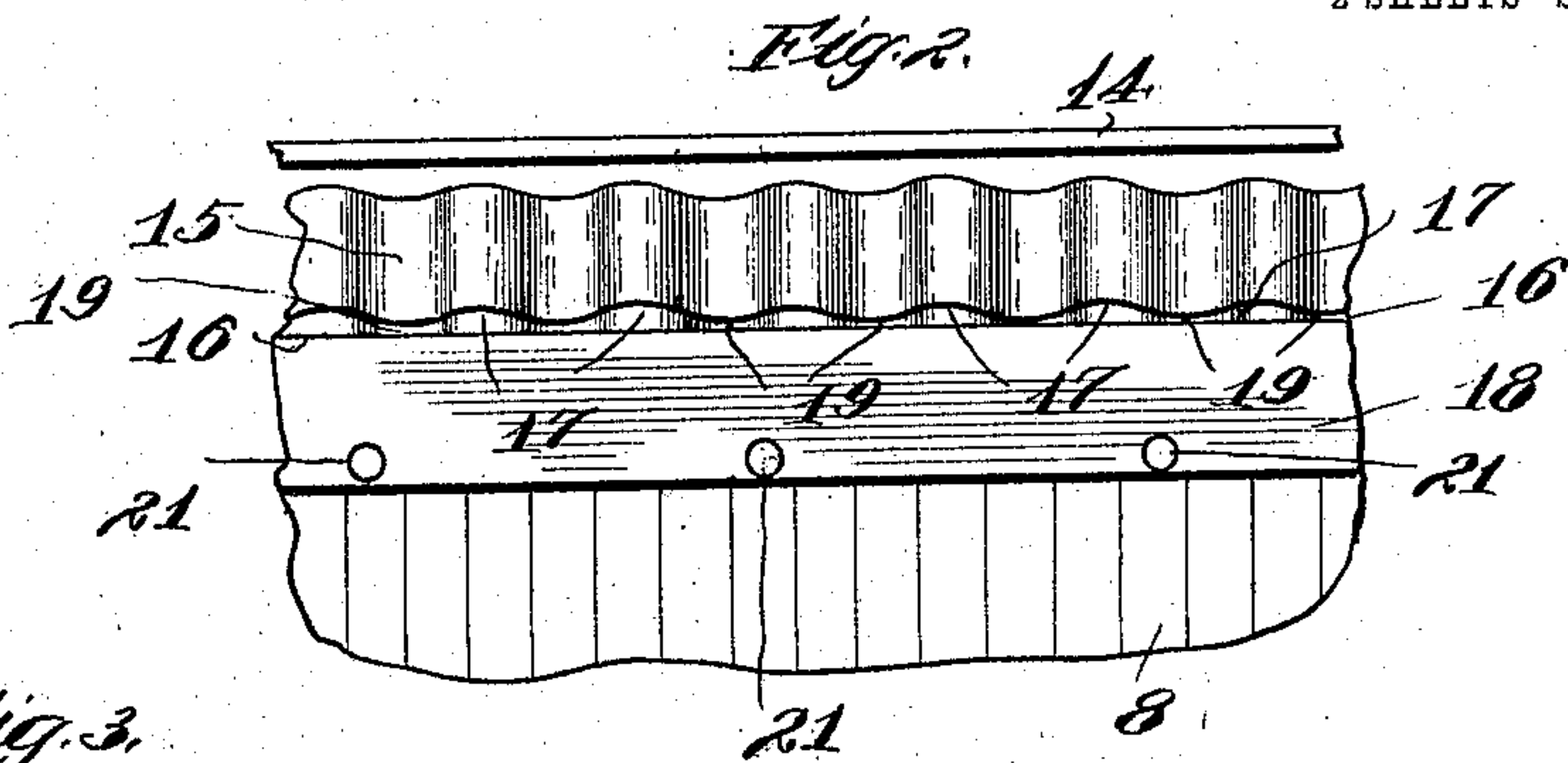
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2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

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CAR-ROOF.

No. 899,817.

Specification of Letters Patent.

Patented Sept. 29, 1908.

Application filed February 19, 1908. Serial No. 416,656.

To all whom it may concern:

Be it known that I, MORRIS E. WARD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Roofs, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to new and useful improvements in car roofs, the primary object being to form a complete car roof out of corrugated metallic sheets or panels and an angular metal cornice at each side of the car combining a clamp or lock for securing the panels and a facia for closing the joint between the outer edges of the corrugated panels and the sides of the car.

In car roofs having corrugated panels it has been impossible, as heretofore constructed, to completely and effectually close the ends of the channels formed by the corrugations at the joints between the ends of the panels and the sides of the car, and undersheathings of boards are necessary to prevent water etc. from entering the car at these points.

The primary purpose of my invention is to provide a roof which shall be complete by employing corrugated panels or sheets resting on a skeleton metallic or wooden frame of ridge-pole, carlines, and longitudinal purlins, and a cornice for holding the sheets or panels securely in place while allowing the necessary yield or flexibility between the parts and forming a weather-tight closure at the joints between the panels and sides of the car, so that no undersheathing of boards or other auxiliary weather-excluding means is required.

Other objects of the invention will appear from the disclosure of the construction employed to illustrate the preferred embodiment of my invention.

The invention consists in the constructions, organizations, and arrangements of parts as hereinafter described and pointed out in the claims, and the preferred embodiment thereof is illustrated in the accompanying drawings in which;

Figure 1 is a perspective view of a portion of a car roof illustrating the present invention, certain of the parts being shown in section; Fig. 2 is a view in side elevation of a portion of the car roof shown in Fig. 1; Fig. 3 is a plan view of Fig. 2 parts being broken away; Fig. 4 is a longitudinal vertical sec-

tional view on the line 4—4 of Fig. 3; Fig. 5 is a transverse vertical sectional view taken at the eaves on the line 5—5 of Fig. 4; Fig. 6 is a view similar to Fig. 5 but showing a modified form of roof sheet or panel, and also showing an undersheathing which may be employed with lighter gages of panels; and Fig. 7 is a detail plan and sectional view on the line 7—7 of Fig. 6.

In the drawings the reference numeral 8 indicates the siding forming the end and side walls of the car body which is preferably provided with interior side-plates 9 and crown-molds 10 at the eaves. The carlines 11 extend from the ridge-pole 12 to the eaves in the usual manner where they are flush with the crown-mold, as shown in Figs. 1, 5 and 6, and it is of course to be understood that longitudinal purlins 13 and run-boards 14 may be employed. It is also obvious that the skeleton frame may be constructed in any suitable manner and of any suitable material adapted to support and carry the metallic panels or sheets hereinafter described.

The reference numeral 15 indicates a number of roof sheets or panels of suitable corrugated metal, each of which is of suitable width and preferably of such length as to extend across the width of the car, although it is of course to be understood that these panels may be in section extending from the ridge-pole outward on each side to the eaves of the roof, the sections being suitably united at the ridge-pole. In either case their outer ends are flush with the crown-molds; and their sides overlap. In the preferred embodiment of my invention these panels are of galvanized metal having three-inch corrugations with their sides lapped from six to nine inches.

The reference numeral 16 indicates a metal cornice preferably of pressed steel, which extends, in one or more sections as desired, along the length of the car at the eaves. The metal cornice is angular in cross section, its body portion 17 being horizontal, and its curtain or skirt 18 being vertical and forming a facia depending from the body over the crown-mold 10. The body of the cornice is corrugated, the crowns of its corrugations overlying and registering with the crowns of the corrugations of the roof-sheets or panels 15, as clearly shown in Figs. 3 and 4. The channels 19 of the corrugations in the body of the cornice are of slightly less depth than the channels between the crowns of the cor-

rugations of the roof-sheets or panels, so as to provide a passage or clearance as at 20 between the facia and panels as clearly shown in Figs. 4, 5, and 6; the purpose of this construction is to provide an unobstructed way 5 formed by the channels of the panels or sheets so that water, cinders etc. may freely pass along these channels and be discharged at the eaves. It is obvious that if the channels of the cornice fitted the channels of the 10 panels or sheets, the inner edge of the cornice would form a dam across the channels of the panels to prevent water or other matter from being freely discharged at the side of the car, 15 and that by providing these passages or clearance between the channels and cornice this objection is obviated.

While the curtain or skirt 18 of the cornice 16 may be fastened to the car body in any 20 suitable manner and by any suitable means, I prefer to secure the cornice at an interval from the crown-mold. For this purpose headed screw bolts 21 are passed at intervals through the curtains, crown molds, siding, 25 and side plates, a nut 22 being threaded upon the end of each screw bolt in order to hold the parts in position, and a washer 23 is strung on each screw bolt between the curtain and crown-mold in order to space these 30 elements a suitable distance apart to provide a continuation of the discharge passages or openings 20.

In the modification shown in Figs. 5 and 6 the ends of the corrugations of the roof sheets 35 or panels are flattened, this being accomplished by a suitable die which turns down the metal of the corrugations as at 24 into the plane of the channels so that the ends of the sheets or panels are in a horizontal plane, 40 as at 25. When this form of roof sheet or panel is employed it is assembled with the cornice in the same manner as when the panels are corrugated out to their edges, the construction and arrangement of the parts 45 being otherwise the same in each instance. It is obvious that by thus bending or turning down the metal of the corrugations of the panels into the plane of the channels or lower portions thereof the upper portions or 50 crowns of the corrugations are closed at their ends, thus affording an additional security against the entrance of water etc. while the cornice coöperates with the panels to lock or anchor them in position and to close the 55 joints between the ends of the panels and the sides of the car.

The metal cornice serves to clamp the roof sheets or panels in place and its skirt or curtain constitutes a facia or molding overlying 60 the ends of the panels to prevent water, cinders, etc. from passing under their ends or entering the corrugations. This combined lock and facia makes the roof permanent and weather tight, while at the same time the 65 joint between the panels and the cornice is

in the nature of a slip joint so as to allow relative movements between these parts due to any strain or expansion and contraction of the metal and thereby providing for the necessary flexibility of the structure. The 70 cornice is secured in place on each side of the car after the roof panels have been laid in place, and by this organization I am able to provide a car roof complete with the panels and cornices. In such cases the panels are 75 preferably heavy enough to constitute the roof; however, if desired a lighter gage of panels may be employed and provided with an undersheathing of boards 26 as shown in Fig. 6 to form a backing, the boards being 80 preferably laid longitudinally to stiffen the car.

It is obvious that the cornice may be employed on any form of roof whether the roof be composed of metal panels or wooden 85 strips, and that it may be associated with either plain or corrugated roofs; in any case it locks or holds the ends of the roof-sections or material securely in place while allowing ample flexibility and closes the joint be- 90 tween the roof and the body of the car. Its locking feature is also of advantage in that it obviates the necessity of passing nails or bolts through the panels or sections, which is especially objectionable in metal roofs; the 95 roof sheets or panels require no fastening other than the cornice.

Having described my invention I claim:

1. A cornice for corrugated car-roofs comprising a horizontal body having corruga- 100 tions providing a clearance between the body and roof, and a vertical skirt or curtain forming a facia.
2. In a car-roof, a series of corrugated roof-sections, and a cornice comprising a de- 105 pending skirt or curtain and a horizontal body overlying the ends of the roof sections and having corrugations corresponding with and unobstructing the channels of the corrugations of the sections. 110
3. In a car-roof, a series of corrugated roof-plates or panels, and a cornice providing a combined facia and lock therefor and comprising a horizontal corrugated body and a vertical skirt, the corrugations of the body 115 being of less depth than those of the panels.
4. In a car-roof, a series of corrugated roof-plates or panels, an angular cornice forming a facia and lock therefor, the cornice being corrugated to less depth than the pan- 120 els, and means securing the cornice at an interval from the car-body.
5. In a car-roof, a series of corrugated roof-plates or panels, an angular cornice forming a facia and lock therefor and com- 125 prising a horizontal body and vertical wing or curtain, the body having corrugations corresponding with but of less depth than the corrugations of the panels, bolts passing through the wings and car-body, and wash- 130

ers on the bolts intermediate the wings and car-body.

6. A car-body having crown-molds, a roof comprising a series of corrugated panels whose ends are substantially flush with the crown-molds, angular cornices extending along the car at the eaves and comprising a corrugated body overlying the ends of the plates and a depending skirt, and means to

secure the skirts to the crown-molds so as to provide a space between the latter and the skirts.

In testimony whereof I affix my signature in presence of two witnesses.

MORRIS E. WARD.

Witnesses:

L. D. CAFFERTY,
F. M. SPRING.